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EXAMINER	
NGUYEN, NAM V	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/801,201	LAUTZENHISER ET AL.	
	Examiner	Art Unit	
	NAM V. NGUYEN	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,9-17,19,31-52,62,63 and 74-96* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9-16,31-42,47,50-52,62,63 and 74-96* is/are rejected.

7)☒ Claim(s) *17,19,43-46,48 and 49* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is in response to applicant's Amendment which is filed May 14, 2010 in the application of Lautzenhiser et al. for a "rate-of-change switches and controllable apparatus" Filed March 7, 2001.

Claims 1-5, 9-17, 19, 31-52, 62-63 and 74-96 are now pending in the application

Response to Arguments

Applicant's argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C *§* 103(a) as discussed below. Applicant's argument with respect to the pending claims 1-5, 9-17, 19, 31-52, 62-63 and 74-96, filed May 14, 2010, have been fully considered but they are not persuasive for at least the following reasons.

In response to Applicant's argument that there is no suggestion to combine the references or impermissible hindsight, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of

disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971).

Allen et al. disclose an activity monitor (10) (i.e. a tilt-sensitive switch) comprises: a piezoelectric transducer device acting as a sensitive orientation sensor (14) (i.e. tilt-sensitive transducer) that produces an output signal in response to a user's activity (i.e. a user manipulating said transducer) (column 2 lines 60 to 67; column 7 line 32 to column 8 line 11; see Figures 1A and 5A-C); an amplifier/detector (24) connected to an analog/digital converter (22) (i.e. a differentiator) adapted to receive to said output signal from the sensor unit (14) (column 4 lines 15 to 23; see Figure 1A); and a control unit (12) (i.e. means), connected to said amplifier/detector (24) connected to an analog/digital converter (22) for performing an audible feedback (i.e. a first switching function) (column 4 lines 49 to 67; column 6 lines 22 to 66; see Figures 1 to 5). However, Allen et al. did not explicitly disclose determine a rate-of-change of said output signal.

In the same field of endeavor of devices for controlling apparatus, Levy teaches a processor determines a rate-of-change of said tilt from a lateral level sensor (16) (i.e. a tilt-sensitive sensor) (column 4 lines 21 to 32; see Figures 4-6) in order to increase the effectiveness of the anti-overturning system. Levy teaches it has been determined that knowledge of the tilt angle in itself may be insufficient to prevent overturning of the bin of a tipper truck during the raising of the bin for purposes of unloading includes a lateral level sensor to sense the lateral orientation of the tipper truck. For example, because of the large mass and momentum of the truck and bin, a rapid increase in tilt angle may be such that by the time a critical tilt angle is reached it may be too late to prevent the overturning. Thus, it is important to monitor the rate of

change of the tilt in addition to the monitoring the tilt itself so as to increase the effectiveness of the anti-overturning system (column 4 lines 21 to 32; column 5 lines 18 to 21; see Figures 4-6).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a processor to determines the rate of increase in tilt angle of the lateral and longitudinal level using the lateral level sensor taught by Levy in the method for monitoring activity and providing feedback to a user concerning activity level performance of Allen et al. because determining the rate of increase in tilt angle would provide accurate feedback on their current level of activity based at least in part on the determined rate-of-change of the lateral level sensor.

In response to Applicants argument that Levy is not analogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved. *In re Wood*, 202 USPQ 171, 174. In this case, Levy teaches a processor determines a rate-of-change of said tilt from a lateral level sensor (16) (i.e. a tilt-sensitive sensor) (column 4 lines 21 to 32; see Figures 4-6) in order to increase the effectiveness of the anti-overturning system. Levy teaches it has been determined that knowledge of the tilt angle in itself may be insufficient to prevent overturning of the bin of a tipper truck during the raising of the bin for purposes of unloading includes a lateral level sensor to sense the lateral orientation of the tipper truck. For example, because of the large mass and momentum of the truck and bin, a rapid increase in tilt angle may be such that by the time a critical tilt angle is reached it may be too late

to prevent the overturning. Thus, it is important to monitor the rate of change of the tilt in addition to the monitoring the tilt itself so as to increase the effectiveness of the anti-overturning system (column 4 lines 21 to 32; column 5 lines 18 to 21; see Figures 4-6). Levy also disclose a mechanism may be provided for interrupting the raising of the bin, the mechanism being responsive to the processor automatically (column 5 lines 18 to 25; column 5 lines 47 to 59) in order to identify dangerous rates of change significantly before a critical angle is reached. Clearly, using the level sensors is to determine the rate of change of the flip. Therefore, Levy is within the field of the inventor's endeavor that sense accelerations or movement to determine a user reaches or exceeds a minimum threshold number of accelerations or movement during a brief and a predetermine time interval.

On page 20, Applicant's arguments that combination of Allen et al. and Levy is inoperable is not persuasive.

As discuss above, Levy teaches a processor determines a rate-of-change of said tilt from a lateral level sensor (16) (i.e. a tilt-sensitive sensor) (column 4 lines 21 to 32; see Figures 4-6) in order to increase the effectiveness of the anti-overturning system during the raising of the bin for purposes of unloading. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a processor to determines the rate of increase in tilt angle of the lateral and longitudinal level using the lateral level sensor taught by Levy in the method for monitoring activity and providing feedback to a user concerning activity level performance of Allen et al. because determining the rate of increase in tilt angle would provide

accurate feedback on their current level of activity based at least in part on the determined rate-of-change of the lateral level sensor.

The examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-5, 9-16, 31-35, 50-52, 62-63, 74 and 81-96 are rejected under 35 U.S.C. 103(a) as being unpatentable Allen et al. (US# 5,749,372) in view of Levy (US# 5,742,228).

Referring to claims 1 and 62, Allen et al. disclose an activity monitor (10) (i.e. a tilt-sensitive switch) comprises:

a piezoelectric transducer device acting as a sensitive orientation sensor (14) (i.e. tilt-sensitive transducer) that produces an output signal in response to a user's activity (i.e. a user manipulating said transducer) (column 2 lines 60 to 67; column 7 line 32 to column 8 line 11; see Figures 1A and 5A-C);

an amplifier/detector (24) connected to an analog/digital converter (22) (i.e. a differentiator) adapted to receive to said output signal from the sensor unit (14) (column 4 lines 15 to 23; see Figure 1A); and

a control unit (12) (i.e. means), connected to said amplifier/detector (24) connected to an analog/digital converter (22) for performing an audible feedback (i.e. a first switching function) (column 4 lines 49 to 67; column 6 lines 22 to 66; see Figures 1 to 5).

However, Allen et al. did not explicitly disclose determine a rate-of-change of said output signal.

In the same field of endeavor of devices for controlling apparatus, Levy teaches a processor determines a rate-of-change of said tilt from a lateral level sensor (16) (i.e. a tilt-sensitive sensor) (column 4 lines 21 to 32; see Figures 4-6) in order to increase the effectiveness of the anti-overturning system.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a processor to determines the rate of increase in tilt angle using the lateral level sensor taught by Levy in the method for monitoring activity and providing feedback to a user concerning activity level performance of Allen et al. because determining the rate of increase in tilt angle would provide accurate feedback on their current level of activity based at least in part on the determined rate-of-change of the lateral level sensor.

Referring to Claims 2-3, Allen et al. in view of Levy disclose the switch as claimed in Claim 1, Allen et al. disclose in which said sensitive orientation sensor (14) (i.e. said tilt-

sensitive transducer) comprises a transducer that produces an output signal proportional to said input (column 2 lines 60 to 67; column 7 line 43 to column 8 line 11; see Figures 5A-C);

Referring to Claim 96, Allen et al. in view of Levy disclose the switch as claimed in Claim 1, Allen et al. disclose wherein the output signal is related to a change in orientation of the transducer (column 7 line 66 to column 8 line 11; column 8 lines 60 to 67; see Figures 5A to 5C).

Referring to claims 4, 9, 15-16, 31, 50-51, 81, 85 and 89, Allen et al. in view of Levy disclose a method and an activity monitor (10) (i.e. a switch), to the extent as claimed with respect to claim 1 above, the switch comprises:

a piezoelectric transducer device acting as a sensitive orientation sensor (i.e. tilt-sensitive transducer) that produces an output signal in response to a user's activity (i.e. a user input) (column 2 lines 60 to 67; column 7 line 43 to column 8 line 11; see Figures 1A and 5A-C);

an amplifier/detector (35) connected to an analog/digital converter (22) (i.e. a first differentiator) adapted to receive to said output signal from the sensor unit (14) (column 4 lines 15 to 23; see Figure 1A);

an amplifier/detector (36) connected to an analog/digital converter (22) (i.e. a second differentiator) adapted to receive to said output signal from the sensor unit (15) (column 4 lines 15 to 23; see Figure 1B); and

a control unit (12) (i.e. means), connected to said amplifier/detector (24) connected to an analog/digital converter (22) for performing an audible feedback (i.e. a first switching function)

based on sense acceleration in direction parallel to either longitudinal axis or orthogonally oriented longitudinal axis (i.e. rate-of-change) (column 4 lines 42 to 67; column 7 lines 43 to 56; column 8 line 60 to column 9 line 8; see Figures 1 to 5).

Referring to Claim 5, Allen et al. in view of Levy disclose the switch as claimed in Claim 4, Allen et al. disclose which further comprises means, connected to said first differentiator, for performing a video output signal on visual display counter units (18 and 19) (i.e. a second switching function) (column 4 lines 15 to 23; column 6 lines 58 to 66; see Figure 1A).

Referring to Claims 10, 82 and 86, Allen et al. in view of Levy disclose the switch as claimed in Claims 76, 81 and 85, Allen et al. disclose in which said producing step comprises: attaching a transducer to a person; and body-member actuating said transducer (column 7 lines 57 to 65; see Figure 4).

Referring to Claims 11-12, Allen et al. in view of Levy disclose the switch as claimed in Claim 9, Allen et al. disclose in which said method further comprises differentiating said output signal a second time; and

said performing step comprises performing said first switching function in response to said second differentiating step (column 4 lines 42 to 67; column 9 lines 23 to 45).

Referring to Claims 13-14, 32-33, 52, 63, 74, 92-94, Allen et al. in view of Levy disclose the switch as claimed in Claims 9, 31 and 50, Allen et al. disclose in which said method further

comprises: performing said first switching function when said output signal is increasing; performing a second switching function when said output signal is decreasing; and producing a logic output as a function of both of said switching functions (column 3 lines 57 to column 4 line 14; column 6 line 58 to column 7 line 5; see Figures 2-3).

Referring to Claim 35, Allen et al. in view of Levy disclose the method as claimed in Claim 31, Allen et al. disclose in which said method further comprises activating control of audio output unit (16 or video output units) (i.e. any apparatus) in responsе to said output function (i.e. a switching function) (column 6 lines 31 to 50; column 9 line 59 to column 10 line 15).

Referring to Claims 90-91, Allen et al. in view of Levy disclose the method as claimed in Claims 31 and 89, Allen et al. disclose in which said method further comprises controlling c control unit (10) (i.e. an apparatus) in response to said output signal of A/D (22) (column 4 lines 14 to 23; column 7 lines 57 to 65; see Figure 4).

2. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable Allen et al. (US# 5,749,372) in view of Levy (US# 5,742,228) as applied to claim 63 above, and in view of Muller (US# 4,865,610).

Referring to Claim 75, Allen et al. in view of Levy disclose the switch as claimed in Claim 63, Allen et al. disclose in which said method further comprises: performing said first

switching function in response to a predetermined rate-of-change of said output signal produced by user actuation of said transducer in the other of said directions (column 3 lines 57 to column 4 line 14; column 6 line 58 to column 7 line 5; see Figures 2-3). However, Allen et al. in view of Levy did not explicitly disclose means for producing a third switching function.

In the same field of endeavor of devices for controlling apparatus, Muller et al. teach that output signals according to the X and Y directions (column 3 lines 55 to 68; column 6 lines 57 to column 7 line 3) in order to processed into the data necessary and suitable for the control of complex appliances.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a method of generating plurality of output signals according to the X and Y direction to create unlimited number of signals taught by Muller in the method for monitoring activity and providing feedback to a user concerning activity level performance of Allen et al. in view of Levy because producing plurality of output signals according to the direction of movement would improve unlimited number of signals to processed into the data necessary and suitable for the control of complex apparatuses.

3. Claims 36-42, 47 and 76-80 is rejected under 35 U.S.C. 103(a) as being unpatentable Allen et al. (US# 5,749,372) in view of Levy (US# 5,742,228) and in view of Elwell (US# 5,394,035).

Referring to Claim 76, Allen et al. in view of Levy disclose a method, to the extent as claimed with respect to claim 4 above, however, Allen et al. in view of Levy did not explicitly

disclose providing a mode of operation in which a rate of change of the output signal is below a threshold rate of change; and performing said switching function in response to the rate-of-change of said output signal exceeding said threshold rate of change.

In an analogous art, Elwell discloses providing a mode of operation in which a rate of change of the output signal is below a threshold rate of change (column 4 line 67 to column 5 lines 18); and performing said switching function in response to the rate-of-change of said output signal exceeding said threshold rate of change (column 6 lines 44 to 56; column 7 lines 1 to 4) in order to detect an event to be monitored for controlling an equipment.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize the need for a detection by a rate of change comparator responsive to the output of the transducer taught by Elwell in the method for monitoring activity and providing feedback to a user concerning activity level performance of Allen et al. in view of Levy because using a comparator for comparing a rate of change of a threshold value would change in the operation of the equipment to provide feedback more reliable.

Referring to Claim 37, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said method further comprises controlling c control unit (10) (i.e. an apparatus) in response to said output signal of A/D (22) (column 4 lines 14 to 23; column 7 lines 57 to 65; see Figure 4).

Referring to Claims 77-78, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said producing step comprises actuating an input (column 3 lines 57 to 66; column 7 lines 33 to 42; see Figures 4 and 5).

Referring to Claim 79, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose further comprising adjusting said threshold rate-of-change (column 7 lines 43 to 56).

Referring to Claim 80, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said performing step comprises differentiating said output signal (column 4 lines 42 to 67; column 8 lines 12 to 29).

Referring to Claims 36, 38 and 40-41, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said method further comprises activating control of audio output unit (16 or video output units) (i.e. any apparatus) in response to said output function (i.e. a switching function) (column 6 lines 31 to 50; column 9 line 59 to column 10 line 15).

Referring to Claim 39, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said method further comprises:

If activity level reach or exceed intensity level, the generating an output beep (i.e. activating control of an apparatus in response to said switching function being performed inside a

window of opportunity); and if activity level does not reach or exceed intensity level generating no feedback to the user (i.e. aborting said activating step in response to said switching function being performed outside said window of opportunity) (column 4 lines 37 to 67; see Figures 2 and 3).

Referring to Claim 42, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said method further comprises: activating a selected one of a first or a second apparatus in response to performing said switching function during a window of opportunity; and proportionally controlling a function of said selected apparatus as a function of said output signal (column 4 lines 42 to 67; column 6 lines 22 to 30; column 9 lines 23 to 45).

Referring to Claim 47, Allen et al. in view of Levy and in view of Elwell disclose the method as claimed in Claim 76, Allen et al. disclose in which said method further comprises initiating cascading a plurality of task opportunities; and said initiating step comprises performing said switching function (column 6 lines 31 to 66; column 8 line 60 to column 9 line 8; see Figures 2 and 3).

Claim Objections

Claims 17, 19, 43-46 and 48-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims as stated in previously office action.

Referring to claim 17, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that refraining from said momentary-contact switching step during a second time delay that follows said window of opportunity; and initiating operation of a first electrical device subsequent to successful completion of the preceding steps.

Referring to claim 43-44, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that

activating a selected one of a first or a second apparatus in response to performing said switching function during a window of opportunity;

selecting a function of said selected apparatus to be controlled; and

said selecting step comprises performing other switching function.

Referring to claim 45-46, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that

initiating cascading a plurality of task opportunities;

selecting a task; and

said selecting step comprises performing said switching function.

Referring to claim 48-49, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest the limitations that

initiating cascading a plurality of task opportunities; and

said initiating step comprises performing said switching function;

selecting a task; and

said selecting step comprises performing an other switching function.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on 571- 272-3059. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/N. V. N./
Examiner, Art Unit 2612

/Brian A Zimmerman/
Supervisory Patent Examiner, Art Unit 2612